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REMARKS

Claims 1-29 are pending. Claims 1-3, 8-12, 16-21 and 24-29 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,032,612 to Williams ("Williams"). Claims 5-7, 13-15, 22, 23, 26, 27 and 29 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Williams. Claims 4, 21 and 28 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Williams in view of U.S. Patent No. 4,040,388 to Miller ("Miller"). Applicants respectfully traverse the rejections under 35 U.S.C. §102 and 35 U.S.C. §103 for at least the reasons set forth below.

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§102 Rejections Are Overcome

A claim is anticipated under 35 U.S.C. §102 if each claimed element is found in a single prior art reference. *Scripps Clinic & Research Foundation v. Genentech, Inc.*, 927 F.2d 1565, 1576 (Fed. Cir. 1991); *Carella v. Starlight Archery and Pro Line Co.*, 804 F.2d 135, 138 (Fed. Cir. 1986). There must be no difference between the claimed invention and the reference disclosure, as viewed by an ordinary artisan. *Scripps Clinic & Research Foundation v. Genentech, Inc.*, 927 F.2d at 1576.

Applicants' independent Claim 1 recites an *in ovo* injection apparatus, comprising:

an egg carrier that holds a plurality of eggs and provides external access to the eggs;

a plurality of injection devices positioned above the carrier, wherein each injection device is configured to contact a respective egg in the carrier and deliver a predetermined dosage of a treatment substance into the egg and/or remove material from the egg; and

an egg support assembly positioned beneath the carrier that is configured to solidly support each egg in the carrier during contact therewith by a respective injection device and to prevent each egg from being pushed downwardly into the carrier by a respective injection device.

Independent Claims 11, 19 and 26 contain similar recitations.

The Final Action states that "there is no structural or functional difference between the claimed support pedestal and the Williams' pedestal 26 of Fig. 10." (Final Action, Page 6). The Final Action also states that the "Williams' pedestal solidly supports an egg and prevents it from being pushed downwardly into the carrier by a[n]...injection device as claimed" and that "if not, the descending injection devices of Fig. 10 would be unable to perform." (Final Action, Page 6). Applicants traverse these unsupported allegations.

Figs. 3 and 10 from Williams are set forth below.

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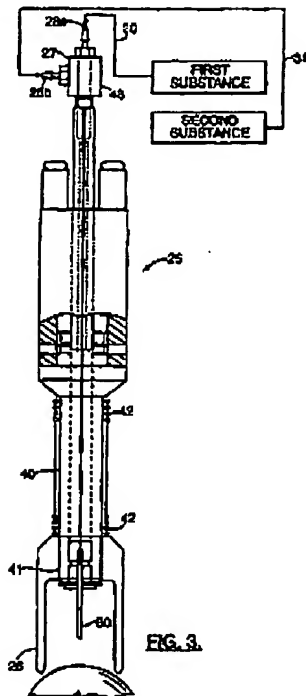


FIG. 3.

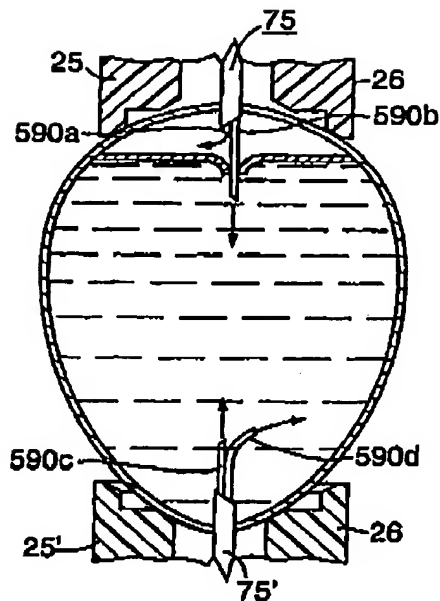


FIG. 10.

The bottom injection device 25' illustrated in Fig. 10 of Williams is identical in structure and function to the top injection device 25, with the exception that the illustrated bottom injection device 25' includes two needles for injecting material into an egg. Williams specifically states that "the description describes a unit with a single multi-site injection device 25 (shown as a top injection device) but the description also applies to an apparatus with multiple injection devices 25', 25" (exemplarily [sic] shown in Figs. 10 and 11), or alternatively, one or more of single bottom or side devices." (Williams, Col. 6, Lines 16-21). In describing the injection device 25, Williams states:

The device includes an egg locating member, or *egg engaging member 26*, connected to the body member bottom end portion, which as illustrated *is slidably connected to the body member and includes a spring 42 to both cushion the engagement*, and hold the egg in place during the downstroke of the injection head. (Williams, Col. 7, Lines 3-8; emphasis added).

The egg engaging member 26 does *not* serve the function of a support that is configured to solidly support an egg against the opposing force of an injection device. Nothing in Williams teaches or suggests supporting an egg against the opposing force of

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injection device 25 with the bottom injection device 25'. Moreover, the Final Action fails to cite any passage(s) in Williams that supports the allegation that the bottom injection device 25' *solidly supports an egg in a carrier* during contact therewith by a respective top injection device and that *prevents the egg from being pushed downwardly into the carrier by the respective injection device*, as recited in each of Applicants' independent claims. Fig. 10 of Williams is merely provided to show that multiple injection devices may be utilized and/or that an injection device may be utilized at different locations relative to an egg. In fact, there is not teaching or suggestion in Williams of using the bottom injection device 25' to solidly support an egg during injection via a top injection device 25.

The injection device described in Williams is unsuitable for *solidly* supporting an egg and preventing an egg from being pushed downwardly into a carrier by an injection device as maintained by the Final Action. The egg engaging member 26 of the injection device 25' is *slidably* connected to the body member of the injection device 25'. In addition, the injection device 25' of Williams includes a spring 42 that is designed to *cushion* the engagement of the engaging member 26 with an egg. To be capable of solidly supporting an egg, the spring 42 would have to be virtually rigid and incapable of deflection. This would appear to be in direct conflict with the stated purpose of the Williams injection device. As such, there is indeed significant structural and functional differences between the Williams bottom injection device and the egg support assembly recited in Applicants' independent claims.

The Final Action also states that the descending injection devices 25 of Fig. 10 would be unable to perform without the bottom injection device 25' solidly supporting an egg. (Final Action, Page 6). The Final Action does not cite any passage(s) in Williams for this allegation. This unsupported allegation is simply not true. In fact, Williams states:

The apparatus of the instant invention can also employ a side or bottom injection device 25', 25". *One or more of these alternative injection devices can be used concurrently with a top injecting device or subsequent or prior in time.* (Williams, Col. 9, Lines 48-51).

Williams clearly states that a side or bottom injection device can be used concurrently with a top injection device or subsequent or prior in time. Williams does not require the presence of a side or bottom injection device to support an egg when a top injection device is used.

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Nothing in Williams teaches or suggests supporting an egg against the opposing force of a top injection device 25 with the bottom injection device 25'.

As viewed by the ordinary artisan, there is a great difference between the egg support assembly of the present invention as recited in independent Claims 1, 11, 19 and 26 and the bottom injection device 25' of Williams. Because Williams does not disclose all of the recited elements of independent Claims 1, 11, 19 and 26, these claims and all claims depending therefrom are not anticipated by Williams.

Applicants' Claim 2 recites an egg support assembly that comprises:

- a frame movable between an operative position and a retracted position;
- a plate attached to the frame and comprising an array of openings formed therein; and
- a plurality of pedestals, each pedestal removably and snugly secured within a respective one of the openings, wherein each pedestal comprises a free end portion configured to engage an egg within the carrier when the frame is in the operative position.

Claims 11, 19 and 27 contain similar recitations.

The recited structure of Claim 2 is illustrated in Figs. 7 and 8 from Applicants' application, which are set forth below.

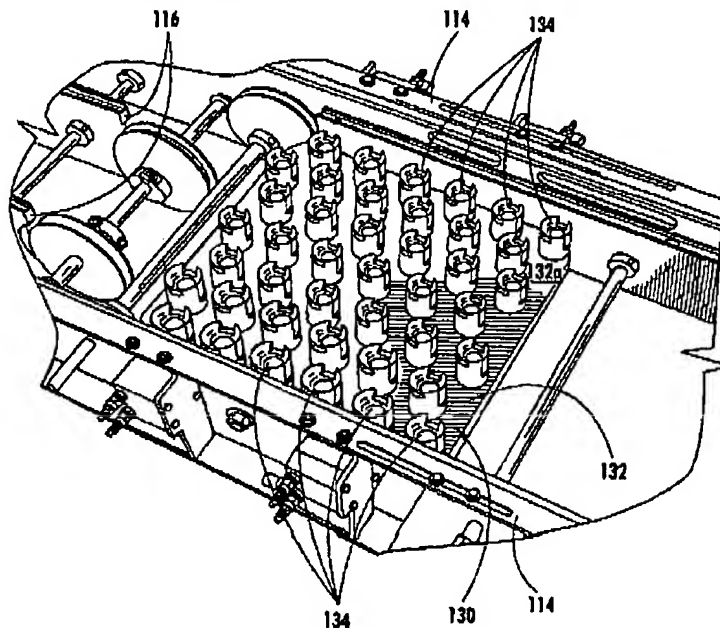
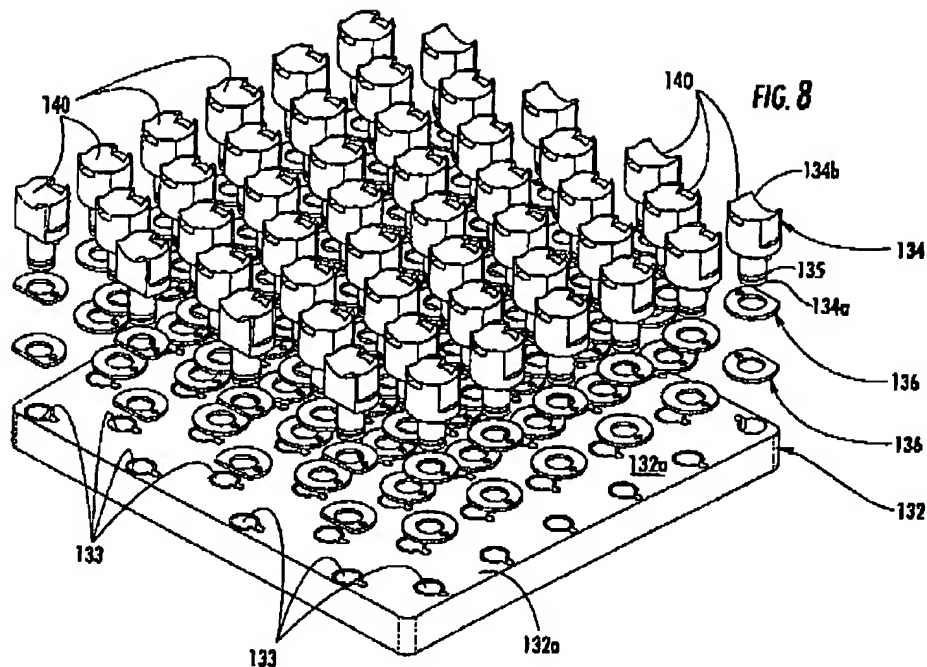


FIG. 7

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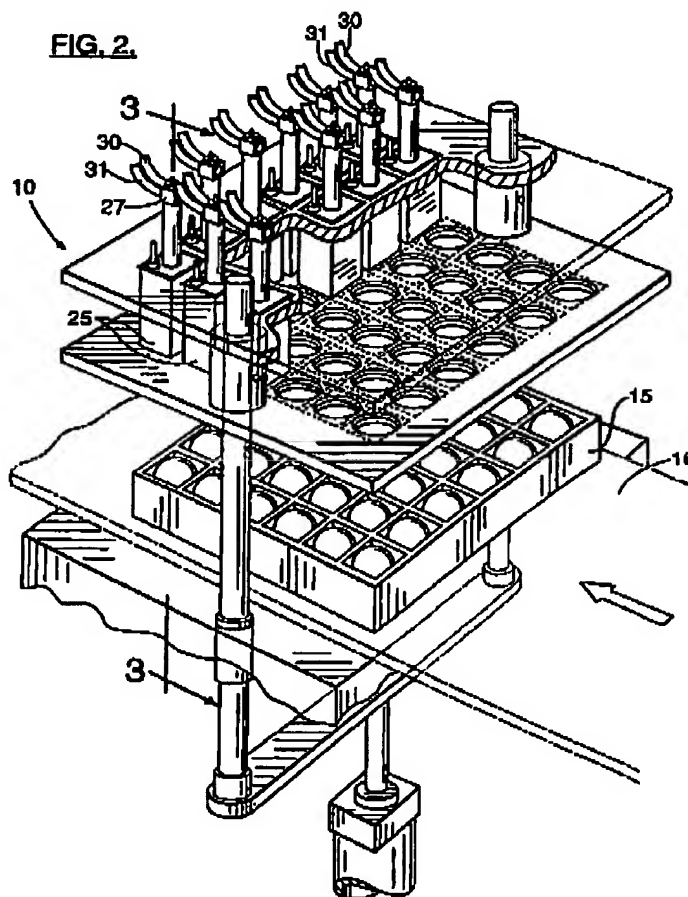
Applicants' egg support assembly 130 is configured to support each egg in an egg flat during contact by an egg injection device 25. The illustrated egg support assembly 130 includes a plate 132 having a plurality of pedestals 134 extending from an upper surface 132a of the plate 132. Each pedestal 134 is configured to support a respective egg in an egg flat positioned thereover. The plate 132 includes an array of openings 133 formed therein in a pattern matching the array of pockets in an egg flat. Each pedestal 134 is removably secured within a respective one of the plate openings 133. Each pedestal 134 includes a proximal end 134a and a distal free end 134b. An O-ring 135 is secured to each pedestal adjacent the proximal end 134a and provides a *snug, friction fit* when the proximal end 134a is disposed within a respective opening 133. One or more shims 136 may be utilized to adjust the height of the distal end 134b of each pedestal 134 above the plate surface 132a, as illustrated. The pedestals 134 are configured to be easily removed from the plate 132 such that shims can be added and removed as necessary.

The Final Action concedes that Williams fails to explicitly state the construction of the lower egg support assembly. (Final Action, Page 3). However, the Action concludes that

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"it would be fair to take the disclosed structure of the upper assembly as a guide for the lower assembly." (Final Action, Page 3). The Final Action has taken the position that the structure of the injection apparatus of Fig. 2 of Williams anticipates the recited structure of the egg support assembly in Applicants' Claim 2.

Fig. 2 from Williams is set forth below:



The illustrated Williams apparatus 10 is an embodiment of the Embrex® Inovoject® Egg Injection System manufactured and sold by the assignee of the present invention and application. The apparatus 10 includes a flat 15, a stationary base 16, and a plurality of injection delivery devices 25 with fluid delivery means such as lumens or needle(s) 90 positioned therein. The flat 15 holds a plurality of eggs 20 in a substantially

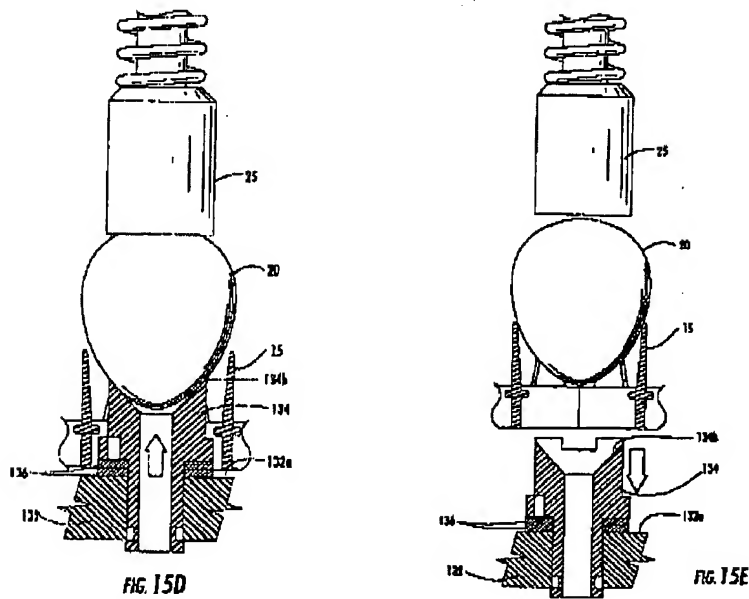
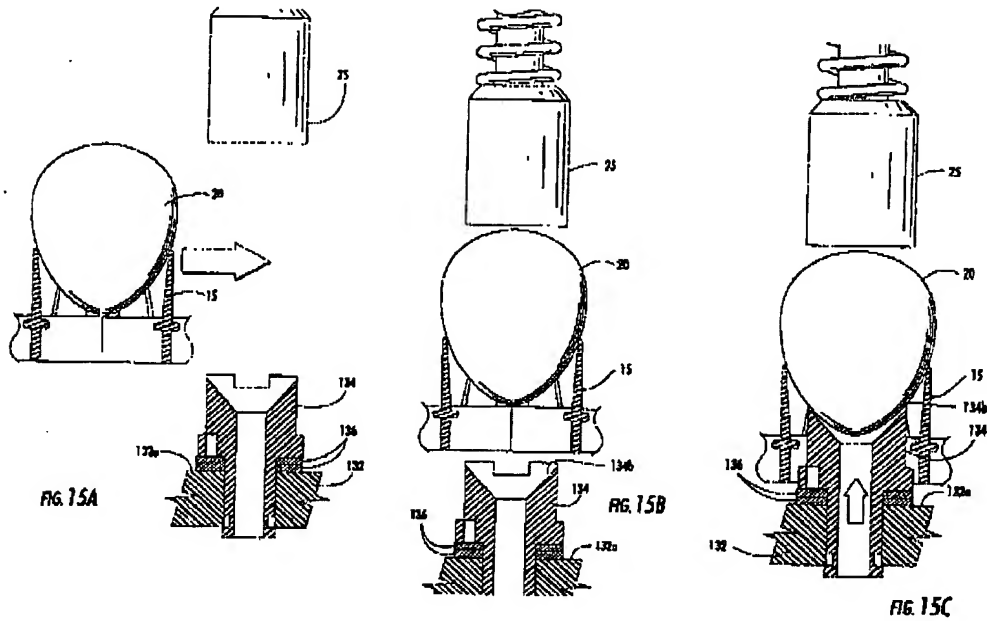
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upright and aligned position. The flat 15 is configured to provide external access to predetermined areas of the eggs 20. The egg is held in by the flat 15 so that a respective one egg is in proper alignment relative to a corresponding one of the injection devices 25 as the injection device 25 advances towards the base 16 of the apparatus. Each of the injection devices 25 has opposing first and second ends 26, 27. Each injection device 25 has a first extended position and a second retracted position. Upon extension of the injection device 25, the first end 26 is configured to contact and rest against predetermined areas of the external egg shell. When not injecting, the injection devices 25 are retracted to rest a predetermined distance above the eggs and stationary base 16.

The Williams apparatus 10 includes a generally horizontally oriented tooling plate with openings therethrough. An injection device 25 rests generally vertically in each respective opening in the tooling plate. When the tooling plate is lowered and the egg engaging member 26 of each resting injection device 25 strikes an egg to be injected, the injection device 25 stops while the tooling plate proceeds downwardly until the injection device 25 disengages from the tooling plate. At this point, the injection device 25 is free to move in a translational direction independent of the tooling plate to seek and come to rest upon the top most portion of an egg, even if that egg is slightly tilted. When the tooling plate is raised, it reengages the injection device 25, straightens the injection device 25 with respect to the vertical, and carries it upwardly and away from the egg being injected.

The injection devices 25 are, in fact, *slidably disposed within the openings* in the tooling plate and can move independent of the tooling plate. This is in sharp contrast with Applicants' egg support assembly 130 wherein each pedestal 134 is disposed *snugly* within a respective opening 133 in the plate 132 and wherein movement of the pedestals 134 is *not* independent of the plate 132. As illustrated in Figs. 15A-15E of Applicants' application, and set forth below, each pedestal 134 is in the same contacting relationship with the plate 132, no matter what the position of the plate 132 is.

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Applicants respectfully submit that, because Williams does not disclose a pedestal that is removably *and snugly* secured within a respective one of the openings in a plate, as recited in Claim 2, this claim is not anticipated by Williams. Similarly, Claims 11, 19 and 27 are not anticipated by Williams.

With respect to Claim 3, the Final Action states, *without citing any passage(s) in Williams*, that Williams further discloses "wherein the egg support assembly is operatively associated with the plurality of injection devices 25 such that each pedestal moves upwardly through a respective opening in the carrier 15 to support an egg 20 as a respective injection device 25 makes contact with the egg 20." (Final Action, Page 3). Applicants respectfully assert that Williams does not disclose any such thing, and respectfully request that the passage within Williams that discloses this be identified. The Final Action is confusing an injection device 25' that is configured to inject an egg from the bottom of the egg with a support pedestal of the present invention. Accordingly, Claim 3 is not anticipated by Williams. For at least the same reasons, Claims 12 and 20 are not anticipated by Williams. In addition, because the Final Action does not identify any passage(s) in Williams in support of its allegation, the rejection under 35 U.S.C. §102 for Claims 3, 11, 19 and 27 is improper.

In view of the above, the rejections of Claims 1-3, 8-12, 16-21 and 24-29 under 35 U.S.C. §102 are overcome.

§103 Rejections Are Overcome

A determination under §103 that an invention would have been obvious to someone of ordinary skill in the art is a conclusion of law based on fact. *Panduit Corp. v. Dennison Mfg. Co.* 810 F.2d 1593, 1 U.S.P.Q.2d 1593 (Fed. Cir. 1987), *cert. denied*, 107 S.Ct. 2187. After the involved facts are determined, the decision maker must then make the legal determination of whether the claimed invention as a whole would have been obvious to a person having ordinary skill in the art at the time the invention was unknown, and just before it was made. *Id.* at 1596. The United States Patent and Trademark Office (USPTO) has the initial burden under § 103 to establish a *prima facie* case of obviousness. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988).

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To establish a *prima facie* case of obviousness, the prior art reference or references when combined must teach or suggest *all* the recitations of the claims, and there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. M.P.E.P. § 2143. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. M.P.E.P. § 2143.01(citing *In re Mills*, 916 F.2d 680, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990)). As emphasized by the Court of Appeals for the Federal Circuit, to support combining references, evidence of a suggestion, teaching, or motivation to combine must be **clear and particular**, and this requirement for clear and particular evidence is not met by broad and conclusory statements about the teachings of references. *In re Dembiczak*, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999). In an even more recent decision, the Court of Appeals for the Federal Circuit has stated that, to support combining or modifying references, there must be **particular** evidence from the prior art as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed. *In re Kotzab*, 55 U.S.P.Q.2d 1313, 1317 (Fed. Cir. 2000).

Furthermore, as stated by the Federal Circuit with regard to the selection and combination of references:

This factual question of motivation is material to patentability, and could not be resolved on subjective belief and unknown authority. It is improper, in determining whether a person of ordinary skill would have been led to this combination of references, simply to "[use] that which the inventor taught against its teacher." W.L. Gore v. Garlock, Inc., 721 F.2d 1540, 1553, 220 USPQ 303, 312-13 (Fed. Cir. 1983). Thus the Board must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the agency's conclusion....

In re Sang Su Lee, 277 F.3d 1338, 1343 (Fed. Cir. 2002).

For at least the same reasons set forth above with respect to 35 U.S.C. §102, Applicants respectfully assert that the primary reference, Williams, fails to teach or suggest the recitations of Applicants' independent claims, particularly as amended above, and all claims depending therefrom. Specifically, Williams fails to teach or suggest an *in ovo* injection

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apparatus, comprising an egg support assembly positioned beneath an egg carrier that is configured to *solidly* support each egg in the carrier during contact therewith by a respective injection device *and to prevent each egg from being pushed downwardly into the carrier by a respective injection device* as recited in each of Applicants' amended independent claims (Claims 1, 11, 19 and 26). As discussed above, there is no clear and particular teaching or suggestion in Williams of using the bottom injection device 25' to solidly support an egg during injection via a top injection device 25. Moreover, the bottom injection device 25' is unsuitable for solidly supporting an egg and preventing the egg from being pushed downwardly. Finally, the Final Action fails to cite any passage(s) in Williams to support its conclusory allegation. The failure of the Final Action to provide clear and particular evidence that the bottom injection device 25' of Williams is used to solidly support an egg during injection by a top injection device 25 is contrary to the requirements for establishing obviousness under 35 U.S.C. §103 according to the Federal Circuit. Accordingly, Applicants respectfully request withdrawal of the present rejections under 35 U.S.C. §103.

Claims 4, 21 and 28 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Williams in view of Miller. Applicants' Claim 4 recites that the egg support assembly is configured to lift each egg from the carrier during contact with each egg by a respective injection device. Applicants Claims 21 and 28 contain similar recitations.

The secondary reference, Miller, describes inoculating eggs with an antibiotic solution by a machine which heat-sterilizes a portion of the shell with a hot shoe, drives a square ended needle through the sterilized portion, injects the solution through the needle, withdraws the needle, heat-coagulates a portion of the egg albumin at the hole with the hot shoe and heat-sterilizes the needle before inoculating the next egg. The hot shoe described in Miller only lifts some eggs from a flat because of the size of the egg. In addition, injection of eggs is from the same side of an egg as the hot shoe. As such, the hot shoe does not serve as a support for an egg being injected. Nothing in Miller teaches or suggests a concern with preventing eggs from being pushed downwardly into a flat during injection. Furthermore, the combination of Williams and Miller teaches adding a hot shoe to an injection head and having injection needles go through the hot shoe. The combination of Williams and Miller fails to teach or suggest solidly supporting an egg from the bottom during injection from the

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top thereof. Accordingly, Applicants respectfully request withdrawal of the present rejections under 35 U.S.C. §103.

In view of the above, it is respectfully submitted that this application is in condition for allowance, which action is respectfully requested.

Respectfully submitted,

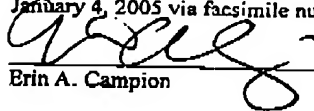


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